

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/37242

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B66B 5/00
US CL : 187/287, 288, 350, 373, 374, 376; 188/188,189

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 187/287, 288, 350, 373, 374, 376; 188/188,189

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
None

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| Y | US 5,492,200 A (KORHONEN) 20 February 1996 (20.02.1996), see entire document. | 1-20 |
| Y | US 5,653,312 A (KATO) 05 August 1997 (05.08.1997), see entire document. | 1-20 |
| A | US 5,217,091 A (SHIINA et al) 08 June 1993 (08.06.1993), see figure 1. | 1-20 |
| A | US 5,377,786 A (NAKAGAWA) 03 Januray 1995 (03.01.1995), see figures 3-5. | 1-20 |

Further documents are listed in the continuation of Box C.

See patent family annex.

| | | |
|---|-----|--|
| * Special categories of cited documents: | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
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| "P" document published prior to the international filing date but later than the priority date claimed | | |

Date of the actual completion of the international search

05 March 2004 (05.03.2004)

Date of mailing of the international search report

10 MAY 2004

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